UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,995	08/31/2000	William B. Boyle	K35A0646	4386

			EXAMINER
26332	7590	03/26/2004	VENT, JAMIE J

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ART UNIT	PAPER NUMBER
2613	6

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No. 09/652,995	Applicant(s) BOYLE, WILLIAM B.
	Examiner Jamie Vent	Art Unit 2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _31 August 2000_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-16_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-16_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _4_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11 are rejected under 35 U.S.C. 102(e) as being unpatentable by

Hanmann et al (6,690,882).

[Claim 1]

1. In regard to Claim 1, Hanmann et al discloses a method of transferring a non-time

critical, error intolerant data segment stored on a disk drive, which is responsive to set

of data transfer commands generated by a host processor and which is operating in a

mode optimized for transferring time-critical, error-tolerant streaming data segments

stored or to be stored on the disk drive (Column 3 Lines 40+), the method comprising:

- Sending a sequence of data transfer commands generated by the host

   processor to the disk drive to transfer a respective sequence of time-

   critical, error-tolerant streaming data segments at a required data transfer

   rate (Figure 1 host processor 36 sends sequence of data transfer

commands to the disk drive 34 to transfer the time-critical, error-tolerant

streaming data segments, AV segments (referred to as AV segments from

this point), at a required data transfer rate as stated in Column 5 Lines

52+);

- Selectively interposing a first data transfer command into the sequence of

data transfer commands, the first data transfer command initiating a first

transfer of non-time-critical, error intolerant data segment from a first

storage location (Figure 4 Step 204 the disk drive receives a host transfer

command related to an AV stream and put into the data stream as seen in

Figure 3. The command relates to the transfer of "non-time critical" non-

AV computer data as stated in Column 10 Lines 43+);

- Transmitting a data transfer error signal generated by the disk drive to the

host processor, the data transfer error signal having a state that indicates

whether any data transfer errors have occurred with respect to the first

transfer of the non-critical, error-intolerant data segment (Figure 4b shows

the transmitting of the error signal in block 220);

- Selectively interposing a second data transfer command into the

sequence of data transfer commands, the second data transfer command

initiating a second transfer of non-time critical, error-intolerant data

segment from a second storage location, thereby utilizing storage

redundancy to achieve an accuracy required for the non-time-critical,

error-intolerant data segment while maintaining the required data transfer

rate of the sequence of time-critical, error tolerant streaming data

segments (Figure 4c shows the second data transfer command while the

second storage location can be seen in Figure 1 HDA 34 which

comprises: one or more disks 46 for data storage (column 4 lines 44+).

[claims 2 & 8]

In regard to Claims 2 and 8, Hanmann et al meets the second storage location has a

predetermined relation to the first storage location (Figure 1 HDA 34 shows the relation

between the predetermined relation of the first storage and the second storage

location.)

[claim 3]

In regard to Claim 3, Hanmann et al meets the required data transfer rate is less than a

maximum data transfer rate for the disk drive, thereby providing time for transferring the

non-time-critical, error-intolerant data segment while maintaining the required data

transfer rate for transferring the sequence of time-critical, error-tolerant streaming data

segments (Figure 4a step 224 provides information if transfer rate is available and

allowing for the retry 224 thereby transferring the sequence of time-critical, error-tolerant

streaming data segments);

[claim 4]

In regard to Claim 4, Hanmann et al meets the time-critical, error tolerant streaming

data segments correspond to audio/visual data (Column 10 Lines 35+ queued

command of the AV data segments relates to the transfer of non-time critical, non-AV

computer data.).

[claim 5]

In regard to Claim 5, Hanmann et al meets the set of data transfer commands requires

no disk-drive-resident error recovery in event of a data transfer error (Column 2 Lines

52+ describes the conventional recovery routines in the event of data transfer error).

[claim 6]

In regard to Claim 6, Hanmann et al meets the disk drive is compatible with one or

more standards from the group: ATA, SCSI, IEEE 1394 (Column 1 Line 20).

[claim 7]

In regard to Claim 7, Hanmann et al meets a method of storing a non-time-critical, error-

intolerant data segment on a disk drive, which is responsive to a set of data transfer

commands generated by a host processor and which stores both time critical, error-

tolerant data segments and non-time critical, error intolerant data segments (Figure 1

shows the host processor), the method comprising:

- Sending a first data transfer command generated by the host processor to

  the disk drive to write the non-time-critical, error-intolerant data segment

  on the disk drive (Figure 1 shows the sending of the command from the

  host processor 36 to the disk controller 80 that determines what to

  read/write from the disk drive 34);

- Writing the non-time-critical, error intolerant data segment at a first storage

  location (Figure 1 line 90 written onto the disk drive by element 64. First

  position and second position seen as varying disks 46);

[claims 9 & 10]

In regard to Claims 9 and 10, Hanmann et al meets the method further comprising:

- Sending a sequence of data transfer commands generated by the host
  processor to the disk drive to transfer a respective sequence of time-
  critical, error-tolerant streaming data segments at a required data transfer
  rate (Figure 1 shows the sending of the command from the host processor
  36 to the disk controller 80 that determines what to read/write from the
  disk drive 34);

- Transmitting a first and second data transfer error signal generated by the
  disk drive to the host processor, the data transfer error signal having a
  state that indicates whether any data transfer errors have occurred with
  respect to the writing of the non-time-critical, error-intolerant data segment
  to the first storage location (Figure 4a);

- Selectively interposing a second data transfer command into the
  sequence of data transfer commands to write the non-time-critical, error
  intolerant data segment on the disk drive if a data transfer error has
  occurred with respect to the writing of the non-time-critical, error-intolerant
  data segment to the first storage location or the second storage location
  (Figure 3 urgent bit 129 will be interposed stating an error has occurred);
  and

- Writing the non-time-critical, error-intolerant data segment to the disk drive
  at a third storage location (Figure 1 line 90 written onto the disk drive by
  element 64. Third position is position in the varied disks 46);.

[claim 11]

In regard to Claim 11, Hanmann et al meets the third storage location is different from

both the first storage location and the second storage location (Column 4 Lines 42+ the

storage location are different seen as varying disks 46);.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable

Hanmann et al (US 6,690,882) in view of Ho et al (6,105,107).

[claim 12]

In regard to Claim 12, Hanmann et al meets all limitations as disclosed in Claims

10 and 11 as well as sending a sequence of data transfer commands generated by the

host processor to the disk drive to transfer a respective sequence of time-critical, error-

tolerant streaming data segments within a data transfer but lacks specifying the data

transfer bandwidth. Ho et al discloses the data transfer bandwidth as discussed in

Column 2 Lines 55+ and its relation to how it effects varying bandwidths have on the

micro controller.

Therefore it would be oblivious to one skilled in the art of time of the invention to use the method of operating a disk drive as disclosed by Hanmann et al and incorporate the use data transfer with regards to bandwidth as disclosed by Ho et al to allow transferring, reading and writing of data in a more efficient manner.

[claim 13]

In regard to Claim 13, meets the second storage location has a predetermined relation to the first storage location (Figure 1 HDA 34 shows the relation between the predetermined relation of the first storage and the second storage location).

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshi et al (5,809,209).

[claims 14 & 15]

In regard to Claims 14 and 15, meets a video recording system to record and playback non-time-critical, error-intolerant data segments and time-critical, error tolerant streaming data segments using a disk drive responsive to a set of data transfer commands and optimized for transferring time-critical, error tolerant streaming data segments at a required data transfer rate, the video recording system comprising:

- User interface that receives user input (Figure 1 host 36 receives "user-requested" data thereby acting as the user interface);

- A data management system that comprises:

   o At least one data buffer that receives, stores, and transmits time-critical, error-tolerant streaming data segments (Figure 1 disk buffer memory 82); and

o Host processor that generates a sequence of data transfer

commands sent to the disk drive to transfer a respective

sequence of time-critical, error-tolerant streaming data

segments at the required data transfer rate (Figure 1 Host 36 to

element 80 that produces commands of data transfer rates);

that selectively interposes a first data transfer command into the

sequence of data transfer commands, the first data transfer

command initiating a first transfer of a non-time-critical, error-

intolerant data segment from a first storage location; that

receives a data transfer error signal generated by the disk drive

(Figure 4), the data transfer error signal having a state that

indicates whether any data transfer error signal having a state

that indicates whether any data transfer errors have occurred in

the first transfer of non-time-critical, error-intolerant data

segment; and that selectively interposes a second data transfer

command into the sequence of data transfer commands, the

second data transfer command initiating a second transfer of

the non-time-critical, error-intolerant data segment from a

second storage location (Figure 4a), thereby utilizing storage

redundancy to achieve an accuracy required for the non-time-

critical, error-intolerant data segment while maintaining the

required data transfer rate of the sequence of time-critical, error-

tolerant streaming data segments (Figure 4D); however, lacks

- Video input interface that receives an external video data

  stream for a selected video program segment; and

- Video output interface that is connectable to a display

  device.

Hoshi et al shows a video interface that receives external video data as seen in Figure 1

element 10. Also, shown is a video output to a tape recorder as seen in Figure 1

Element 24a-c which is further connected to a display device.

Therefore it would be oblivious to one skilled in the art of time of the invention to

use the method of operating a disk drive as disclosed by Hanmann et al and incorporate

a video input and output interface as disclosed by Hoshi et al to allow for further data

streams to be entered and viewed in the system.

[claim 16]

In regard to Claim 16, meets the data management system further comprises a

command buffer (Figure 1 element 80 shows a command buffer).

Contact Fax Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, DC 20231

Or faxed to:

703.208.6306 (for formal communication intended for entry)

703.308.5359 (for informal or draft communications, please label "PROPOSED"
or "DRAFT")

*Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).*

Contact Information

*Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Jamie J. Vent whose telephone number is (703) 305-
0378.*

*If any attempts to reach the examiner by telephone are unsuccessful, the examiners
supervisor, Christopher Kelley, can be reached at (703) 305-4856.*

*Any inquiry of a general nature or relating to the status of this application should be
directed to the Group receptionist whose telephone number is (703) 305-4700.*

*Information regarding the status of an application may be obtained from the Patent
Application Information Retrieval (PAIR) system. Status information for published
applications may be obtained from either Private PAIR or Public PAIR. Status
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more information about the PAIR system, see http://pair-direct.upsto.gov. Should you
have questions on access to the Private PAIR system, contact the Electronic Business
Center (EBC) at 866.217.9197 (toll free).*

JV
Jamie Vent
03/11/2004

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